

Risk Perception of Unentitled Land

By

Gina Pfingston

B.S., Business Administration, Finance, 2014

Northeastern University

Submitted to the Program in Real Estate Development in Conjunction with the Center for Real Estate in Partial Fulfillment of the Requirements for the Degree of Master of Science in Real Estate Development

at the

Massachusetts Institute of Technology

September, 2019

©2019 Gina Pfingston

All rights reserved

The author hereby grants to MIT permission to reproduce and to distribute publicly paper and electronic copies of this thesis document in whole or in part in any medium now known or hereafter created.

Signature of Author _____

Gina Pfingston
Center for Real Estate
July 22, 2019

Certified by _____

David Geltner
Professor of Real Estate Finance, Center for Real Estate
Thesis Supervisor

Accepted by _____

Professor Dennis Frenchman
Class of 1922 Professor of Urban Design and Planning,
Director, Center for Real Estate
School of Architecture and Planning

Risk Perception of Unentitled Land

by

Gina Pfingston

Submitted to the Program in Real Estate Development in Conjunction with the Center for Real Estate on July 22, 2019 in Partial Fulfillment of the Requirements for the Degree of Master of Science in Real Estate Development

ABSTRACT

Even the most seemingly straightforward developments are not without risk. Given development's speculative nature, developers are taking a risk today that there will be future demand for their project at the time of delivery. Additionally, given the high fixed costs of development, such as land value and construction costs, developers face the risk that their projected rental revenue or asset valuation might shift unfavorably by the time of delivery. While nearly all developments face these risks, developers acquiring a parcel of land that must still go through the entitlement and permitting process are faced with a host of additional risks given the uncertainty surrounding third party approvals. As zoning is a localized set of regulations, the process and associated risks vary from market to market.

The purpose of this thesis is to understand what uncertainties are considered the riskiest by developers and how the clarity of the local zoning code can create or mitigate these risks and impact a developer's risk tolerance. Through a set of interviews with groups experienced in development in three major U.S. markets, this paper explores how developers are pricing the additional risk of acquiring unentitled land into their return requirements and if their methods suggest that they are being adequately compensated for taking on greater uncertainty. It appears that while developers do underwrite a premium for unentitled land, among different unentitled opportunities, this premium is fairly homogenous within a given market. Differences exist however between markets depending on how transparent and easily understood the approval process is. In a city where the approval process for obtaining entitlements is clear and codified, developers feel confident in the path to construction commencement and therefore underwrite only a moderate return premium. However, in cities with ambiguous or byzantine zoning codes, uncertainty and perhaps even skepticism of the process causes developers to require a greater return premium, resulting in decreased land values, to compensate themselves for the increased risk in obtaining entitlement approvals.

Thesis Supervisor: David Geltner

Title: Professor of Real Estate Finance

Table of Contents

Chapter 1 – Introduction	4
Overview	4
Importance	4
Research Objectives	4
Chapter Organization	5
Chapter 2 – Land Value Analysis	6
Approaches to Land Valuation	6
Project Development Phases	8
The Canonical Method	9
Chapter 3 – Defining the Entitlement Process and Risks	11
The Entitlement Process	11
Sources of Development Risks	12
Practical Application	16
Chapter 4 – Methods and Survey Topics Explored	17
Method	17
Topics Explored	17
Survey	19
Chapter 5 – Entitlement Case Studies – Interview Results	20
Boston	20
Los Angeles	24
Austin	28
Chapter 6 – Conclusion	32
Academic Analysis of Industry Approach	32
Takeaways	34
Bibliography	35

Chapter 1 – Introduction

Overview

The development stage of the asset cycle is often considered the riskiest. Even if a developer's plans are permitted by right, there exists a host of external factors that can impact both the speed of delivery and cost of construction. However, when a developer purchases a piece of land without approved entitlements and building permits in-hand, an entirely new set of risks emerge. These risks must be priced into what the developer pays for this more uncertain option to build.

While buyers of land are almost always buying to create value in the develop cycle, sellers of land may have different motivations for selling depending on their business plan, capital requirements, or unforeseen events. Like the adage "a bird in the hand is worth two in the bush", Sellers often prefer cash and closing today, over a protracted closing period with uncertain contingencies. This preference is at odds with a buyer's preference for closing on land only when they are certain that they have eliminated the risks associated with the permitting process by receiving entitlements to build their intended plan. To bridge this misalignment, a potential investor will often analyze and underwrite the opportunity as if it were fully permitted and entitled, and then introduce discounts, either through an increased development timeline or required return premium, in order to account for these uncertainties.

The purpose of this thesis is to discern what uncertainties are considered the riskiest by developers and how the clarity of the local zoning code can create these risks and impact a developer's risk tolerance. This thesis will explore how investors determine the appropriate discount for this uncertainty and discuss whether the land underwriting process commonly used in practice rigorously accounts for the level of uncertainty associated with receiving entitlements.

Importance

This topic has become increasingly important as sought-after land in core locations becomes more scarce and is subject to a competitive bid process. Do investors appropriately adjust their required return based on the particular risk of the site or is some of this risk premium eroded due to a desire to beat out the competition?

The fundamentals of land valuation are widely known but the nuances employed by individual firms are shielded by the need to preserve trade secrets and unique competencies that are developed through experience within a market and with similar transactions structures. This thesis seeks to create transparency in the risk analysis process. Additionally, as zoning is a localized policy, developers investing in various U.S. markets will encounter unique processes and requirements for receiving entitlements that may be more or less codified. The ambiguity or clarity of the local zoning code may actually increase or decrease the cost of development in a market depending on how it works to create or mitigate uncertainties. As cities seek to manage growth in their urban core, understanding how their policies impact the private sector's ability to build is an important tool.

Research Objectives

Through interviews with seasoned development professionals, this thesis will shed light on the risk analysis process. The objective is to understand how a jurisdiction's zoning code impacts a developer's appetite for risk by attempting to quantify what an appropriate discount to an entitled land value would be for a site that must still move through the permitting process. This thesis will describe interviews with three industry professionals, each with substantial development experience in their respective markets of

Boston, Los Angeles, and Austin. These markets were chosen based on their geographic diversity and varying levels of clarity in their entitlement process.

This thesis will ask investors how these risks of unentitled land manifest themselves in their analysis and ultimate bid price. Are investors increasing their required return on cost or required internal rate of return for an unentitled opportunity? How are they pricing in the cost of their time that must be devoted to achieving the entitlements? Lastly, what risk mitigating factors can help make an investor comfortable with decreasing the required return for an unentitled parcel of land?

Chapter Organization

This thesis is structured in a manner which first presents the inspiration for the topic and presents an overview of the academic analysis approaches to underwriting a land development opportunity. It then presents the common risks of unentitled land and moves into discussing the research findings of a set of qualitative interviews to uncover the practical, “real world” perspective regarding risk and land value underwriting under various local zoning codes.

Chapter 1 opens with the purpose of this thesis and moves on to discuss the importance of this issue, citing the opacity which surrounds the analysis and bid process, especially between markets. This chapter also discusses the purpose of this research, not just for its practical application but also for the perspective of academics to consider how classical and elegant models are often forgotten in favor of more pragmatic approaches, in light of competitive bid processes.

Chapter 2 seeks to give an overview of land valuation from an academic perspective. This chapter summarizes preeminent valuation literature to both outline valuation approaches and discuss the analysis of development risk.

Chapter 3 begins with a summary of the entitlement process, including a discussion of what zoning is and the steps to obtaining the permits required to commence construction. It then moves on to discuss what have often been sighted and speculated to be the greatest risks facing real estate developers. Chapters 2 and 3 frame the remaining chapters of this thesis which introduce practical perspectives and analyze the processes and responses of industry professionals.

Chapter 4 presents an overview of the methodology that was used to obtain the qualitative interview data that will be used to assess the practical application of land valuation. This chapter defines the key topics explored including Zoning and Entitlements as well as the key underwriting considerations of Return on Cost (“ROC”), Internal Rate of Return (“IRR”), and Deposits. The chapter concludes with the survey questions that were asked during the interviews.

Chapter 5 discusses how the interviewees were selected and summarizes the results of the interview surveys. This chapter is structured into three case studies, each organized into five parts: 1.) description of local entitlement process, 2.) description of specific development scenario, 3.) greatest risks faced, 4.) impact of risks on underwriting, and 5.) market summary conclusion. This structure organizes the answers in a homogenous fashion in order to draw a comparison regarding how the clarity or ambiguity of the local zoning and entitlement process creates or mitigates risks. As each land development opportunity is different, as may be each investor’s perspective on risk. This approach to organizing their responses was intended to illuminate whether any patterns could be discerned that could lead to a conclusion on how the entitlement process can create risk and how real estate land developers assess, price, and hedge against this risk when acquiring unentitled land.

Chapter 6 completes this thesis and organizes the findings of the interviews into a conclusive takeaway.

Chapter 2 – Land Value Analysis

Approaches to Land Valuation

A parcel of land presents a blank canvas for various development concepts, each of which produce a unique stabilized project value. Two primary methods exist for assessing the value of land under each unique development scheme. The first is a sales comparison method that uses the sales price of land that has previously sold for a similar use to arrive at a value for the subject parcel. The second and more financially rigorous method is through a residual land value analysis that assesses the future value of the stabilized project and deducts from this the costs of development.

While both methods are used in practice by various real estate industry professionals, the degree to which either is employed depends on the nature of the development, the purpose of the valuation, and the complexity of the opportunity. Both methods will be explained in detail below based on guidance from The Royal Institution of Chartered Surveyors.

Sales Comparison Method

The Sales Comparison Method uses the sales price of previously sold land that has similar qualities to the subject parcel in order to determine what a market price for the subject parcel should be. This approach requires that the subject parcel be located in a relatively active market where land parcels having similar traits and intended for the same type of development have recently transacted. While the Sales Comparison Method is largely objective as it is based on the price achieved for broadly similar sites, each parcel of land is slightly different than the next. According to The Royal Institution of Chartered Surveyors, the following represent just some of the ways land values can differ between two seemingly comparable parcels:

Submarket variation – Even within the same market, different submarkets may exist with more or less desirable real estate based on a host of variables such as demographics, neighborhood amenities, and transit connectivity.

Site conditions – Different sites may have wildly different site conditions that could be a result of the environmental impacts of previous uses or the existing topography and vegetation on the site. Even neighboring sites may have different values if, for example, one is a corner lot and offers more attractive street frontage or a better programmable site for ingress and egress.

Construction costs – Different sites may have different construction material requirements based on site conditions or may require varying costs based on the existing or required infrastructure of the site.

Existing regulations – Beyond just the permitted use zoning, different sites may have varying regulations that can impact what can and cannot be built and to what intensity. In residential development for example, the density built on a site impacts the number of affordable units required to be delivered in many U.S. markets.

Market conditions – From both a supply and demand perspective as well as an economic and capital markets perspective, rapidly changing market factors can impact the price of similar land sites. The sale date between two sites is therefore important to consider.

If a developer assumes that real estate markets are efficient, the sold price of a comparable parcel of land should reflect the price he should pay, subject to any differences in location or development scheme. In

this way the Sales Comparable Method presents a “ball park” range for appropriate value¹. The more of these issues that the site presents however, the more variation there may be in the value of the subject compared to the comparable. For these reasons, the higher the number of variables and adjustments for assumptions, the less useful the comparison method. Nonetheless, the Sales Comparison Method provides a reasonableness check when used in conjunction with the Residual Land Value Method.

Residual Land Value Method

The Residual Land Value Method requires an analyst to make a number of assumptions that reflect their perception of the current market and future outlook to arrive at the value of a parcel of land given a particular development scheme and projected construction budget. Because the resulting land value is impacted by forward-looking assumptions, the Residual Land Value Method is the more subjective approach. This method for determining the residual land value follows the following formula:

$$\text{(value of completed development)} - \text{(development costs + developer's profit)} = \text{land value}$$

Value of completed development – The value of the completed development is determined by capitalizing the net operating income of the completed project using a projected exit cap rate. The exit cap rate is the yield rate that the developer assumes could be attained by a future sale of the property. Depending on the hold period of the specific development group, firms may choose to capitalize the net operating income upon stabilization or at a future date.

Development costs – From the value of the completed development, the total construction costs plus the developer’s required profit are subtracted. The construction costs include all cash that was expended in order to deliver the completed project. Because the Residual Land Value Method is extremely sensitive to the total project costs, developers will often engage a general contractor, construction manager or consultant in order to price the total estimated costs for their development scheme during underwriting and acquisition. These development costs include not just the material costs but also:

- Permitting fees, holding costs, and impact fees/exactions (city)
- Acquisition costs including attorney’s fees, escrow and title costs
- Site related costs including testing and environmental remediation, utility infrastructure and site readying
- Construction costs including both hard costs (materials, labor) and soft costs (architecture, engineering and consultant fees)
- Financing costs including the interest on the construction loan

Developer’s profit – Development groups will often evaluate their decision to move forward with a land acquisition and development scheme based on whether the project will meet certain required return hurdles. Two of the most common return metrics are the Return on Cost (ROC) and Internal Rate of Return (IRR).

- Return on cost is the return yield from the annual stabilized net operating income of the project as a percentage of the total development costs. For example, if a project had a \$100,000 construction budget, including land, and a developer required a 6% ROC, the

¹ “APB Valuation Advisory 4: Identifying Comparable Properties.” The Appraisal Foundation. September 26, 2013. https://www.appraisalfoundation.org/imis/docs/Valuation_Advisory_4_Identifying_Comparable_Properties_Updated_Final_09262013.pdf.

stabilized project would need to produce a stabilized NOI of \$6,000 in order to satisfy the developer's ROC return hurdle.

- Internal Rate of Return is the return a project delivers over a defined hold period based on the cash outflows during construction and cash inflows upon delivery, considering the total asset value upon stabilization. The internal rate of return is calculated on both the unlevered and levered cash flows of a project in order to determine whether the project generates sufficient returns to proceed.

The residual land value method is often employed by developers as it allows groups to tailor their analysis to their specific development scheme and underwrite their assumptions for construction costs and future revenue. This kind of deeper financial analysis is often required by lending agencies as well as they seek to understand the project concept, projected budget and timeline when underwriting a potential construction loan². None the less, both methods have their place in the analysis process of development firms³.

Project Development Phases

Different stages of a development project's life cycle have different levels of risk as a result of the uncertainty surrounding the future of the project. As shown in the figure below, taken from *Commercial Real Estate Analysis & Investments*, a development project begins when an investor identifies a parcel of land for acquisition, as depicted along the horizontal axis. The solid line illustrates the total amount of financial capital that is expended on the project at various points during the project's life cycle, as seen along the left-hand vertical axis. While the financial investment may be low during the initial stage, the dashed line, which is used to indicate the level of risk in each phase, demonstrates that the riskiness of a project is in fact highest during this initial period and decreases as uncertainties surrounding its future are resolved.

During this initial stage, when a developer is assembling, optioning, and permitting the land as well as designing the project, the success of the project is dependent on the approvals of the permitting authorities, largely outside of the control of the developer. This high level of risk and uncertainty requires a commensurately high return on the capital that is being invested during this period. As shown in the figure below, the opportunity cost of capital at this point could be as high as 40%. It is important to note that while the financial capital expended during this time may be low, the human capital of the development firm is being heavily invested through time and internal resources in order to unlock the greatest potential for value creation as a result of market analysis, design, and entitlement efforts. Should a project not receive the required building permits, the financial and human capital expended during this phase is essentially wasted⁴. It is this initial phase of the development life cycle that this thesis is focused on exploring.

² "Investor 101: What Is a Commercial Construction Loan Pro-Forma?" Horizon Community Bank. October 18, 2018. <https://www.horizoncommunitybank.com/investor-101-what-is-a-commercial-construction-loan-pro-forma/>.

³ Royal Institution of Chartered Surveyors. *Valuation of Development Land*. Coventry, UK: Royal Institution of Chartered Surveyors, 2008.

⁴ Geltner, David M., Norman G. Miller, Jim Clayton, and Piet Eichholtz. *Commercial Real Estate: Analysis & Investments*, 732-742, 766-769. Mason, OH: OnCourse Learning, 2014.

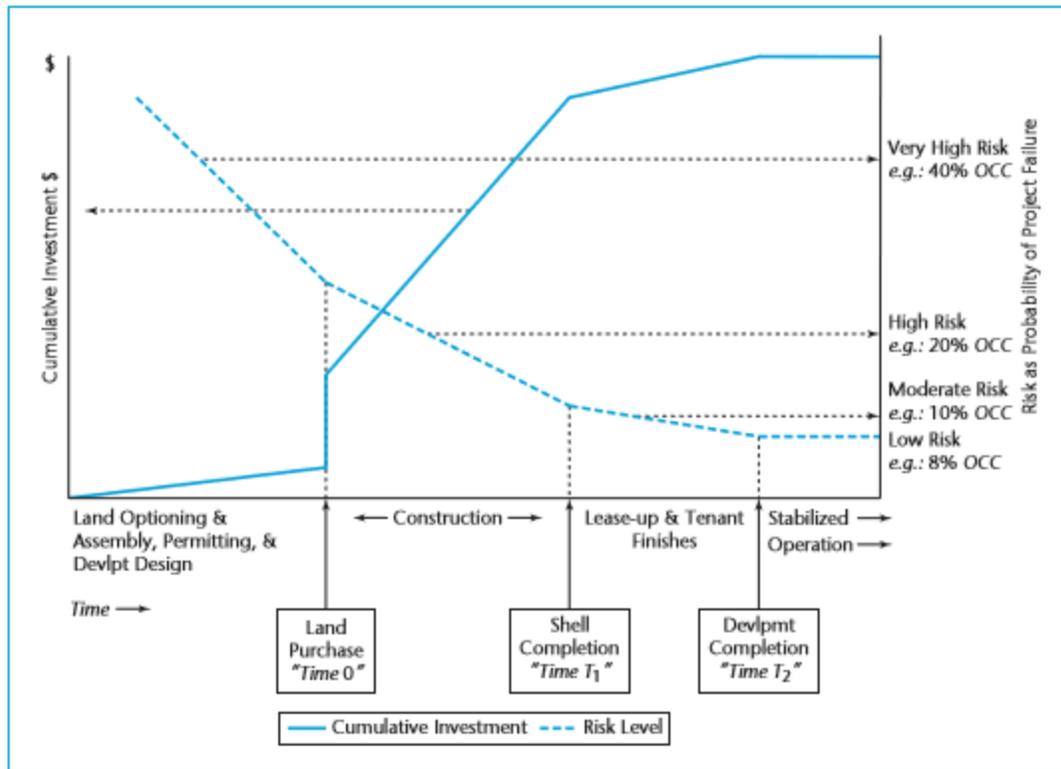


EXHIBIT 28-2 Development Project Phases: Typical Cumulative Capital Investment Profile and Investment Risk Regimes

Each phase in a development project's lifecycle has a unique level of risk. In order to discern the appropriate level of return and unveil an accurate understanding of this risk, the analysis of a development project must be broken down into distinct phases, allowing developers to create unblended internal rates of return between cash flow events that delineate the project life cycle phases.

The Canonical Method

In order to discern the appropriate risk and return for the development phases of a project, *Commercial Real Estate Analysis & Investments* illustrates the use of the canonical method where cash flows are assumed to occur at only two points in time. The canonical method treats cash flows of different phases independently, growing or discounting them to these two points in time, which allows an analyst to account and adjust for the associated risk between Time 0 and Time t to arrive at an appropriate cost of capital. When evaluating the pre-construction phase, Time 0 is the time at which the irreversible decision is made to move forward with the development and the cost of the land is incurred. It is important to note that the economic opportunity cost of the land at Time 0 is its market value at this time, not necessarily its historic acquisition cost. This is especially important for land parcels that are acquired unentitled. In instances where construction cannot commence immediately after purchasing the land, as is the case with unentitled land, any cash outlays, including the acquisition cost, must be grown to Time 0. Time t is when construction is completed and the project enters stabilization.

The use of the canonical method allows the un-blending of the project's IRR and presents an elegant approach to applying a return metric that is commensurate with the level of risk at each stage in the development process. While this method affords investors a more accurate indication of the risk involved in each stage and the appropriate resulting residual land value, "ad hoc" development underwriting often employed in practice lacks the rigorous economic and financial analysis that is required to adequately

quantify the risk inherent during this phase of development. One reason for this is that the firm that is acquiring the land and pursuing the entitlements is often the same firm that is taking the project through the construction and lease-up phases. Because of this, firms conduct their underwriting from the perspective of one project, using traditional discounted cash flow analysis which comingles the planning, construction, lease-up and stabilization phases, and ignores the strikingly unique characteristics and risk profiles of each. This process blurs the risk and corresponding return requirements of each phase, making it difficult for developers to identify the true sources of project risk and ensure that they are compensated appropriately for undertaking it.

The parsing of risk that has been suggested requires developers to take a more rigorous approach in order to ensure that they are adequately compensated for each unit of risk which they undertake compared to alternative investment options. The suggested canonical method will result in an underwriting approach that will allow decision-making from a fully informed perspective where the actual risk that exists in each phase of the project relates directly to the return required by the firm for expending both their financial and human capital. When applied to unentitled land, the canonical method would allow investors to analyze how the risks specifically related to pursuing entitlements would impact their required return hurdles.

Chapter 3 – Defining the Entitlement Process and Risks

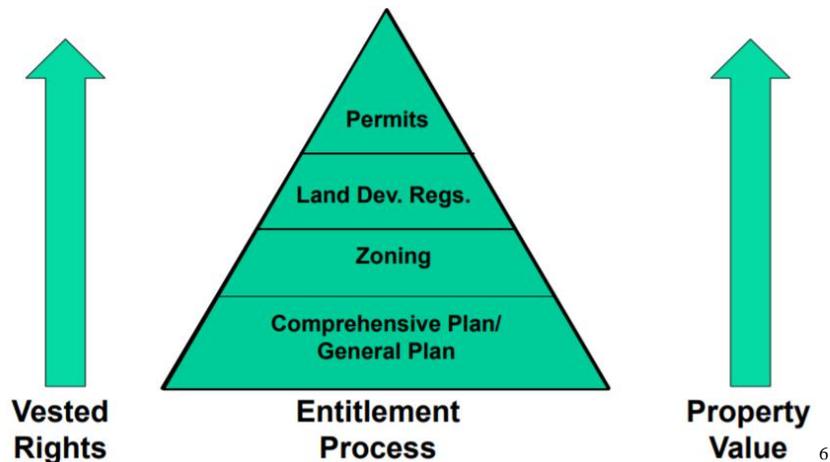
The Entitlement Process

One of the most critical steps in the initial assembling, optioning, and permitting phase of a development project’s lifecycle is understanding what can legally be built on the land and the process for securing those rights. Before outlining the key risks involved in this process, it is important to define the steps of receiving entitlements, which are the legal rights to build a project. In almost all U.S. cities, with a notable exception being Houston, a fairly homogenous process exists for obtaining entitlements. The following chart by the Urban Land Institute illustrates the levels of regulations and approvals that are required before a project can begin construction. At the bottom are the broadest regulations, the municipality’s general plan, which is a document developed by the local jurisdiction to govern growth and development. The general plan usually includes goals and initiatives for the future of transportation, housing and open space in the area and therefore may impose additional considerations to the underlying zoning.

The next step, zoning, is the parcel-specific regulations which outline the permitted uses on the site. Zoning in the U.S. came about in the early 1900’s, originating in Los Angeles in 1906 where initial zoning laws sought to establish designated use districts that kept dangerous uses such as chemical storage and tanneries away from residential communities⁵. Since its inception, zoning ordinances have been adopted by almost all municipalities and have been expanded to govern not just the use but the permitted height, setbacks, lot coverage, floor-area-ratio and other site-specific restrictions for developable land.

Permitted development on the land is further impacted by the next step, land use regulations, which include building codes and subdivision laws. The final step, at the top of the pyramid is the project-specific permits. Development projects must comply with all levels of these regulations either by-right or through awarded exceptions in order to receive entitlements to build.

Regulations that Govern Development Rights



⁵ “A Brief History of Planning & Zoning in Los Angeles.” Re:Code LA. January 6, 2014. <https://recode.la/updates/news/brief-history-planning-zoning-los-angeles>.

⁶ Farmer, David. “Fundamental Skills for Real Estate Development Professionals II (Cont'd) - Project Entitlement.” Urban Land Institute. October 17, 2012. <http://archive.uli.org/fallmeeting2012/wed/DenverEntitlements-DavidFarmer.pdf>.

Development begins through the sourcing of a parcel of land. Developers may search for land to build a specific use or may find the land and then develop the appropriate use after analyzing the site. Regardless, the proposed use may or may not be permitted under the existing general plan and zoning laws.

Even if a proposed project is permitted by-right under existing general plan, zoning and land use regulations, a project still requires final building and design permits from the local authorities and sometimes even state or federal regulating committees depending on the governing jurisdiction. Therefore, even if a site is acquired with zoning that permits the intended development, a site is only shovel-ready if it is sold along with approved building permits. Nevertheless, acquiring a site with zoning that permits the intended use greatly decreases the time until construction can commence and therefore greatly mitigates the uncertainty and risk surrounding the project.

Sources of Development Risks

Commercial Real Estate Analysis & Investments suggests that development risk comes from two sources, lease-up risk and operational leverage. Lease-up risk is a result of development being a speculative undertaking, meaning that the market performance (i.e. the occupancy, leasing velocity, rental rates) is not guaranteed at the start of development. The second source of risk is derived from the operational leverage of the high fixed costs of development (i.e. the land acquisition cost, construction costs, consultant fees) relative to the variable revenues that are a result of development's speculative nature. This means that the future value of a project is not guaranteed relative to the committed capital outlays. While revenue risk can come from varying demand in the space market, the value of an asset can also fluctuate based on investor demand for the asset in the capital markets, reflected in the market capitalization rate⁷.

In addition to lease-up risk and operational leverage there exists a bevy of additional risks that are specific to the entitlement process, that developers must face at the inception of a project. The following is an overview of some of the risks developers must account for when they agree to acquire an unentitled parcel of land:

Zoning Changes

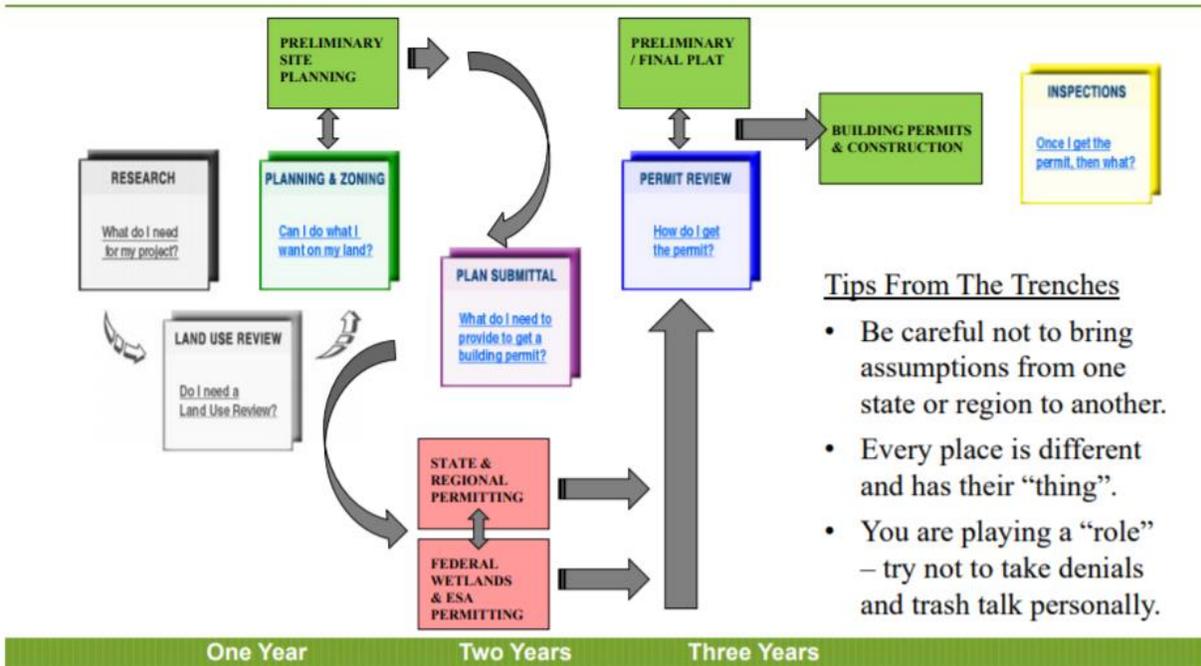
Zoning is the set of regulations which governs what a developer can build on a parcel of land including the permitted uses, intensity, and design that are allowed on the site. While zoning determines what can be built on a parcel of land by-right, it is only part of the more complicated, aforementioned entitlement process.

Where a developer seeks to build anything that varies from what is permitted under the existing zoning, the developer must seek variances from the governing body either in the form of special permits, a zone change or other amendments to the existing plans. This is in addition to the permits needed for the building plans and design which are the final step required before a developer can break ground on the project. Because the developer's timeline to delivery is contingent upon the approvals of others, prior to receipt of construction permits, all new developments possess entitlement risk which can add time and costs to the project⁸.

⁷ Geltner, David M., Norman G. Miller, Jim Clayton, and Piet Eichholtz. *Commercial Real Estate: Analysis & Investments*, 762. Mason, OH: OnCourse Learning, 2014.

⁸ Formingle, Ian. "Top 10 Sources of Risk in Real Estate Investment Deals." CrowdStreet. May 16, 2016. <https://www.crowdstreet.com/top-10-real-estate-risk/>.

The entitlement process for attaining building permits can be lengthy, especially when seeking relief from or changes to the existing regulations, zoning or general plan. Urban Land Institute puts forth the following diagram to illustrate the iterative steps to receiving entitlements and the timeline that can take upwards of three years, and sometimes longer, to receive the necessary permits.



9

Because zoning is localized, it is often thought that local developers, those with experience in a market, possess an advantage due to their relationships and connections. Research has found however, that while this has historically been a barrier to entry for national players, developers with access to patient capital have been able to overcome much of this advantage due to increased transparency which has eliminated sweetheart deals between developers and municipal authorities. However, when a project requires complex rezoning efforts, local market expertise still prevails, prompting national players to employ grassroots strategies such as partnerships with local firms in order to work through the lengthy and complicated process¹⁰.

Because approvals are contingent upon the decisions of others, zoning poses one of the greatest initial risks to the development process. Therefore, acquiring a parcel that has at least some of the zoning risks mitigated, either because it is a by-right use or because some or all of the necessary building permits have been secured, allows investors to more confidently underwrite the construction costs and time for a particular project which should translate into lower required returns for this phase of the project lifecycle.

Community Opposition

While a developer is moving through the entitlement process, the proposed project is subject to varying levels of community input and potential opposition, depending upon its stage in the approval process, its

⁹ Farmer, David. “Fundamental Skills for Real Estate Development Professionals II (Cont'd) - Project Entitlement.”

¹⁰ Kelley, Scott Edward. 2007. “Entitlement Advantage: The Balance of Local Knowledge and Capital Access in Real Estate Entitlements.” Thesis. Massachusetts Institute of Technology.

size and how it differs from its surrounding uses. If a development has already acquired some or all of the necessary approvals or if the proposed use is allowed by the existing zoning and land use regulations, there will be minimal time and opportunity for community input regarding the project's existence and design. However, if the project requires a change to existing regulations or is large and will therefore have a bigger impact on the surrounding community, the project will likely come under scrutiny by the public. Public input can either come through formal channels such as during community hearings or through grassroots organizations formed to oppose or amend the proposed project. These local groups that oppose new development are often referred to as NIMBY organizations which stands for Not In My Backyard¹¹.

Community opposition can be a variable outside of developer control. However, a developer can get out ahead of negative opposition through early community engagement and working with a local partner or land-use attorney to navigate the entitlement process. Communication with local groups that may feel impacted by the project's existence early on can allow the developer to quell worries or incorporate feedback into the early stages of design that could derail or delay the project if not incorporated early on.

Changing Political Climates

All real estate is subject to the political climate of the market in which it is located. Changing tax policies or laws governing usage and safety regulations can result in unexpected costs or revised business plans for existing real estate. For development projects, especially those without entitlements, a changing political climate can be especially risky and create substantial uncertainty surrounding the timeline of construction. For example, if a municipality is going through an update to their zoning or land use regulations, the future allowed uses and building specifications may be ambiguous and create an unclear path to obtaining entitlements. Projects still needing to be entitled may be delayed as the municipality sorts through its future development guidelines. Developers might also encounter increased costs if requirements change before final permits are granted.

Additionally, changing political offices or professionals can create further uncertainty as the relationships and good will that developers may have curried in the past to help obtain entitlements may be unavailable. Political risks therefore impact developments most directly when a project has not yet received full entitlements. Acquiring a parcel with at least some of the approvals in place or with favorable by-right zoning for the intended use can help mitigate the impact of a changing political climate on the timeline and costs of a development project.

Economic

Development projects face economic risks which come from a variety of sources connected to the construction, financing and leasing of the project. Independent of the actual project, the development also faces geographic market risk related to the underlying demographics of the location in which the project is being constructed.

Construction Risk – First, the project could encounter construction-related risks from both an increased construction budget and construction cost overruns. If a developer is able to close and acquire a parcel of land that has the necessary entitlements in place to begin construction in the near term, it is likely that this developer can procure a reasonably accurate construction budget to consider when underwriting the land and lock in similar construction pricing at the time of close. However, if the developer is entering into a purchase and sale agreement with a seller for a parcel of unentitled land for a price determined today,

¹¹ Badger, Emily. "The Bipartisan Cry of 'Not in My Backyard'." The New York Times. August 21, 2018. <https://www.nytimes.com/2018/08/21/upshot/home-ownership-nimby-bipartisan.html>.

there may be substantial risk that construction costs will increase between the time of underwriting the land and the receipt of entitlements and commencement of construction. Additionally, regardless of closing with or without entitlements, all development projects face risk from cost overruns which developers must consider in their underwriting. Often development budgets will contain a contingency that developers must agree is a reasonable cushion to absorb any unforeseen cost increases and engage in construction contracts with guaranteed maximum prices to help mitigate this risk¹².

Financing Risk – A second source of economic risk comes from financing costs. A construction loan is a shorter-term, higher-interest rate loan that is drawn down to cover the costs of construction after the project's equity has been expended. Construction loans can be in the form of stand-alone loans for the period of construction only or can cover the period of construction and then convert to a permanent loan. Regardless of the loan type, developers are subject to risk related to a change in the cost of financing the project. As construction loans often have variable interest rates, the total cost of the loan to the developer may increase substantially over the life of the loan if market rates increase. Additionally, as construction loans are often interest-only, the developer is subject to a large balloon payment which must be paid off upon project stabilization, putting pressure on the developer to line up permanent financing ahead of construction loan maturity¹³. Locking in an interest rate on a permanent loan can help mitigate the risk from the capital markets that financing costs will increase between loan underwriting and closing on a potentially larger principal balance.

Lease-Up Risk – The third source of economic risk manifests in the lease-up of the project. The Residual Land Value Method explicitly requires that developers project a future net operating income for their stabilized project. As this project will often not be delivered for years into the future, many uncertainties surround this estimate. Developers face the risk that market rents will flatten or even decline between the time of underwriting and lease-up as well as risk from both supply and demand. If competitors deliver projects that are first to market or if the project delivers space that is not in line with tenant demands, the demand for the delivered asset may be weakened resulting in less favorable leasing velocity. The developer's opinion on where the market is in the economic cycle therefore impacts the value paid for the land and the ultimate profit made from the stabilized project. One way that developers seek to mitigate this lease-up risk for commercial assets is through pre-leasing and built-to-suit projects. Pre-leasing is when a developer begins leasing space or units in the project while the project is still under construction. Built-to-suit construction however, involves securing a tenant, often for an office, industrial or lab project, before beginning the development process, and constructing the project to their specifications with the agreement that the project will be delivered by a certain date and leased for a certain value and term¹⁴. Both pre-leasing strategies mitigate not just the project's lease-up risk but could be used to demonstrate to approval agencies that market demand exists for the proposed project. While a firm is unlikely to sign a lease before land and approvals have been secured, demonstrating their interest can be a source of risk mitigation.

Market Risk – The final source of economic risk comes from the location in which the project is being built. Related to the lease-up risk, market risk involves changes in the surrounding location of the project.

¹² Macomber, John D. "You Can Manage Construction Risks." *Harvard Business Review*, Issue 3 (March-April 1989). <https://hbr.org/1989/03/you-can-manage-construction-risks>.

¹³ Mastroeni, Tara. "Everything You Need to Know About Construction Loans." *Forbes Magazine*. August 20, 2018. <https://www.forbes.com/sites/taramastroeni/2018/08/20/everything-you-need-to-know-about-construction-loans/#7c8351e35733>.

¹⁴ "Build-to-Suit Leases." KPMG. February 2017. https://advisory.kpmg.us/content/dam/frv/en/pdfs/2017/FN_IID17_01.pdf.

These could include changes in demographics, surrounding businesses or other factors impacting desirability that have changed substantially since the time of underwriting. For example, a developer could have acquired a parcel of land for multifamily and retail development adjacent to a major corporate headquarters. However, whether due to economic changes or changing business strategies, the corporate headquarters could relocate before the mixed-use development delivers, causing weakened demand for a well-located live-work-play community. Similarly, demographic changes in a neighborhood due to waning jobs, civic investment or educational resources may all impact the success of a project by altering demand. Market risk can be mitigated through an intimate knowledge of the evolving trends and plans for a community either through civic engagement or building strong relationships with the community and surrounding business and civic players. While this thesis is focusing on the downside risks faced by developers, it should be mentioned that a major source of value in developable land is this flexibility, or call option value, that the developer can take advantage of as upside opportunities arise. The ability to choose when to build allows a developer to optimize the type and scale of development to suit the changing market conditions.

Practical Application

A study completed in 2010 by Bulloch & Sullivan looked at the operations of a typical development firm and parsed out the various tasks involved in the development process from an information sharing perspective. Interestingly, of the 91 identified tasks, 63 of these occurred before construction commenced, illustrating that the most time and labor intensive portion of the development process takes place before a shovel breaks ground on the site. Because more than two-thirds of the tasks happen early on in the process, there is both the greatest risk and the greatest opportunity to influence the success of a development during this time¹⁵.

As discussed earlier, investors often do not undertake the rigorous financial analysis that parses out the IRR of each development phase in order to determine a required return commensurate with the undertaken risk for land parcels at various stages of development. While the *mechanics* of traditionally applied discounted cash flow analysis are widely understood, nuances of how investors are pricing risk into their residual land valuations is often veiled as the bid process for marketed land is an opaque process and firm-specific underwriting models are rarely shared.

The following sections seek to uncover the practical approaches that investors implement to price entitlement risk into their bids and if the approaches used are uniform across the industry. This thesis will seek to understand how the rigidity of local land use regulations impacts the appetite for risk and what factors firms consider most heavily when evaluating risk. Depending on the market, does existing zoning help or hurt the risk profile of the deal? How do investors decide when in the cycle to acquire unentitled land and when to hold off and does this timing impact their bid prices? These are just some of the questions to be answered in Results section following a discussion of the survey methods and topics to be explored.

¹⁵ Bulloch, B., and J. Sullivan. "Information—The Key to the real estate development process". Cornell Real Estate Review 8 (2010): 78–87.

Chapter 4 – Methods and Survey Topics Explored

Method

As stated, the main objective of this thesis is to create transparency around how developers perceive, analyze and underwrite entitlement risk during the land acquisition process and to understand how strict or loosely defined legal zoning increases or mitigates risk. As the bid process for marketed land is often opaque with little public data available regarding the transaction specifics, these questions lend themselves best to qualitative-based research. This thesis uses interviews with developers to discover the details of the bidding process for a land parcel and to ask questions regarding the specifics of the parcel and its location, as no two land sites are the same.

A survey was developed which focuses on the entitlement status of the subject parcel and the developer's familiarity with the local market and seller, as these factors can impact the perception of risk. Regarding location, this thesis felt it was important to interview groups active in different major U.S. markets, each with unique zoning and entitlement processes, in order to analyze how the presence of strict zoning, or lack thereof, affects an investor's perception of entitlement risk.

The development groups interviewed were sourced through outreach to commercial investment sales brokers in the three markets who have conducted recent marketing campaigns for parcels of land and received bids from interested groups. Interviews were then conducted via phone call with the survey questions sent to the development firms ahead of time for review and preparation.

The names of the interviewed developers along with the exact addresses of the parcels will not be disclosed for this thesis in order to maintain confidentiality for the interviewed groups and allow for uncensored opinions regarding their local entitlement processes.

Topics Explored

While many development terms are widely understood, their nuances can vary slightly between different firms or markets. Because of this, the following outlines both the definitions used and context surrounding each of the prominent topics that were explored during the interviews with each group.

Zoning

For the purposes of this thesis, zoning includes all land use regulations, general plan guidelines, and use and intensity restrictions involved in the entitlements process. Zoning was discussed on a localized level, asking the developers to describe the status of the local zoning and whether their market has a clearly defined zoning code and whether this zoning was strictly or loosely enforced.

Entitlements

Entitlements convey a legal right to build on a parcel of land. As discussed, entitlements are only fully granted once a proposed project is in agreement with the land use regulations, zoning, and any granted variances and has received approved permits on its design and building plans.

However, because developers often have unique visions for the highest and best use of a piece of land, a site is rarely sold shovel-ready. Instead, sites may be sold in agreement with zoning but without final building permits. In this way, a site having full entitlements is often a rarity during land sales.

Instead, developers use the term "entitled" colloquially during this interview process to describe the approval status and risk profile of various opportunities. Depending on the estimated timing until

receiving full entitlement approvals and the developer's familiarity with the local zoning authorities, developers seem to regard sites with only minimal outstanding approvals needed as having similar risk profiles as a fully entitled site. For these reasons, the term "entitled" as it relates to the approval status of the subject parcels of the interviewed groups will be described individually in each case study.

Return on Cost

Return on Cost (ROC) was discussed in regard to the return metrics that developers may use when evaluating whether a development scheme is projected to achieve the return levels desired by a development firm. As development projects are speculative investments, Return on Cost is a forward-looking cap rate. It takes into consideration both the costs needed to construct and stabilize the property and the future stabilized net operating income (NOI) once the property has been delivered¹⁶. It is calculated by dividing the stabilized NOI by the total project costs, including the cost of the land. During the interview process, developers were asked about their target Return on Cost numbers for both entitled and unentitled land acquisitions and whether this was an important metric for evaluating the viability of a potential development.

Internal Rate of Return

Similar to Return on Cost, the Internal Rate of Return was discussed as a metric for evaluating whether a development project met the returns required by the development firm. The internal rate of return (IRR) is the discount rate that makes the net present value of all project cash flows equal to zero. In other words, the IRR is the return that the developer anticipates to achieve based on the cash outflows and cash inflows of a project over a defined period of time. During the interviews, developers were asked how their IRR expectations differed between entitled and unentitled land and whether this was a substantive metric for evaluating the risk of an investment.

While some of the groups interviewed were long-term holders of real estate, for the purposes of development underwriting, these groups analyzed the IRR of a potential project typically starting from land site acquisition through project stabilization. Groups said they occasionally will extend the outside date of their IRR analysis to include one-to-two years of stabilized income but that this was not necessarily common. For the purposes of this thesis, we will consider all IRR premiums discussed to mean development period IRR.

Deposits

Deposits are the payments developers put into escrow during the closing process in order to pledge their interest in the subject parcel. If a developer is not closing immediately on the land acquisition, by paying these deposits, which may be refundable or non-refundable, the developer is purchasing an option, or the right without obligation to obtain the land at a later date for the agreed upon purchase price¹⁷.

Deposits essentially allow a developer to avoid or mitigate much of the entitlement risk. Because of this, an unentitled land parcel that was acquired using deposits during a due diligence period should be considered less risky than a similar site that was acquired without these option payments and without the additional time to investigate risk. Deposits were explored during developer interviews as they are

¹⁶ Welk, Dave. 2017. "Cap Rate vs. Return on Cost: Valuing Commercial Real Estate." Origin Investments. July 5, 2017. <https://origininvestments.com/2017/07/05/cap-rate-vs-return-on-cost-valuing-commercial-real-estate/>.

¹⁷ Geltner, David M., Norman G. Miller, Jim Clayton, and Piet Eichholtz. *Commercial Real Estate: Analysis & Investments*, 707. Mason, OH: OnCourse Learning, 2014.

commonly used during land acquisitions. Discussions with industry professionals should help illuminate whether varying entitlement risk profiles of land impact the amount and refundable status of the deposits.

Survey

In order to give the development groups the ability to gather specific information regarding previously generated underwriting and bids, the following survey was sent out to groups in advance of the interview.

- 1.) Parcel location (City, State)
- 2.) Suburban or CBD?
- 3.) Do you have an office in this market (AKA are you local)?
- 4.) Do you plan to partner with a local group for expertise?
- 5.) Parcel Size (specify approximate acres or land SF)?
- 6.) Familiarity with Seller?
- 7.) Did this familiarity help mitigate your feelings regarding entitlement risk? Why or why not?
- 8.) Built in this market before?
- 9.) Did this experience help mitigate your feelings regarding entitlement risk? Why or why not?
- 10.) Does this site have existing zoning that governs it? How does this affect your risk perception?
- 11.) Which of the following presented the greatest risk factors associated with receiving entitlements on this particular site?

Risk	Applicable?
Zoning change/variance required for New USE	
Zoning change/variance required for Increased DENSITY	
Ambiguity in zoning code	
Lack of familiarity with local government	
Changing or uncertain local political environment	
Lack of familiarity with Seller	
Other (please write in)	

- 12.) What is the process and timeline for obtaining entitlements/building permits in this market?
- 13.) What return on cost premium (bps) did you attribute to the unentitled land?
- 14.) Does this ROC premium change much with the opportunity? Please give a premium range for unentitled land over entitled land.
- 15.) Please share the following information regarding the two bids.

	Entitled Bid	Unentitled Bid
Land Price		
ROC		
Project Cost (excluding land)		
Time to close		

- 16.) (a) Did your opinion of where we were in the economic cycle impact how much risk you underwrote? (b) Did this affect the price paid for land that was not “shovel ready”? (c) What about for land that is “shovel ready”? (d) When do you decide not to buy unentitled land based on the economic cycle? (e) Can you characterize how your perception of the market cycle affects your land/site acquisition strategy in terms of price, required ROC, and/or timing of purchase, use of optioning, etc.?

Chapter 5 – Entitlement Case Studies – Interview Results

The risks of receiving entitlements on a parcel of land vary greatly depending on the time, cost and expertise required to achieve them. Because zoning is specific to local markets, how well its regulations are understood by the developers impacts the level of development risk and therefore the returns required by developers. Ambiguous or clearly defined zoning will dictate the path to approvals. The interviews described in this chapter sought to understand if ambiguity in zoning results in higher uncertainty and therefore higher risk. This chapter will present three case studies that were developed following interviews with firms actively bidding on and acquiring land in their respective markets. Each developer interviewed specializes in their respective market in order to better compare how local groups, familiar with the market's zoning and approval authorities, understand and analyze the risk of unentitled land in the approval climate of their market. The case studies are organized by city and follow the same outline which includes:

- 1.) a description of the entitlement and zoning climate of the market
- 2.) the specific development opportunity or scenario described by the developer during the interview
- 3.) the greatest risks faced by the developer and how they analyze them
- 4.) the impact of these risks on their underwriting.

Each section ends with a summary conclusion of how the market's zoning impacts the entitlement process and how investors are pricing this into their land acquisition bids. The case studies begin with Boston, a city with the most ambiguous zoning code, followed by Los Angeles and Austin, a city with a highly codified zoning code and entitlement process where many of the development risks are well documented by local developers.

Boston

Entitlements and Zoning

The most recent edition of the zoning code in Boston was adopted in 1964. The Boston Zoning Commission (BZC) is responsible for maintaining and updating this zoning code and adopting all new zoning and zoning amendments, which are often recommended by the Boston Planning & Development Agency (BPDA) after a public dialogue and planning process.

The BPDA is “is charged with growing the tax base, cultivating the private jobs market, training the workforce, encouraging new business to locate in Boston and existing businesses to expand, planning the future of neighborhoods with the community, identifying height and density limits, charting the course for sustainable development and resilient building construction, advocating for multi modal transportation, responding to the city's changing population, producing insightful research on our City, and ensuring Boston retains its distinctive character.” These responsibilities help shape the zoning code as well as the projects that receive ultimate entitlement approval. This is because commercial development projects are often too large or too unique that they cannot be reasonably approved using the existing zoning code as-is and are therefore subject to the approval of the Boston Planning & Development Agency. The BPDA uses tools such as Article 80 Project Review, Institutional Master Plans (IMPs), and Planned Development Areas (PDAs) to determine shape, density, and use guidelines for the project.¹⁸

¹⁸ Boston Planning & Development Agency. 2019. <http://www.bostonplans.org/zoning/zoning-commission>.

Scenario

The following case study is based on the experience of the Boston-based team of a well-known global real estate investor and developer. The local office of this firm is made up of highly experienced professionals with strong familiarity both with the landscape of approvals as well as the people granting approvals. During the interview, the group described their experience acquiring two parcels, both urban core locations within the Boston area, intended for mixed-use development. As the group intended to hold these project long-term and because they had the experience and capital available to execute independently, the team was not pursuing these opportunities with a local partner.

The entitlements being pursued on the first parcel were in line with the use and intensity permitted by the site zoning. However, due to its size, the site required a PDA and the project therefore was subject to the approval and necessary permits from the BPDA. Because the process of obtaining permits through a PDA is a known quantity though, the entitlement risk here was mostly due to timing, which was anticipated to take about 18-24 months to obtain.

The entitlements being pursued on the second parcel however, were not in line with the underlying zoning. Instead the developer would be pursuing an increase in the allowed density on the site and changes to height and use limits. The process of obtaining permits for this project was therefore much more uncertain as entitlement risk came from not just timing but also from the uncertainty surrounding what density, height and use variances would be granted by the BPDA for this site. Despite the increased uncertainty and how this would impact the project design and underwritten program, the process for obtaining entitlement permits was also estimated at 18-24 months.

This developer shared that regardless of familiarity with the seller and the seller's qualifications, developers in Boston must do complete due diligence to understand the risks inherent with the site, mitigating any impact from seller familiarity on risk profile.

Greatest Risks and Risk Analysis

Zoning Ambiguity – Boston's 1964 zoning code and requirement that effectively all commercial-scale projects go through an approval process with the BPDA that is motivated by the aforementioned goals of city building, creates great uncertainty surrounding the future of development projects in the City of Boston. As described by the developer, among the global markets that the firm is active in, Boston stands out as there are no "yes" or "no" answers with regard to what can and cannot be built, even when a project appears in line with the existing zoning or precedents. Virtually all commercially pursued development projects therefore contain some level of uncertainty surrounding what will be approved.

Despite the deep presence in the market, experience isn't given much weight during the approval process with the permitting authorities. Instead this experience has helped the group understand the costs associated with this lengthy and uncertain process perhaps better than groups unfamiliar with developing in Boston.

The developer presented a strong belief that the market would be better served by codifying more of the requirements often mandated by the BPDA and operating less as a spot zoning organization and more like that of Los Angeles or other cities with well outlined zoning requirements. They felt that this "spot zoning" approach which appears opaque and political can breed a lack of trust by the community as approvals may appear more or less favorable to certain groups, creating an environment described as "Byzantine".

Because this ambiguity creates additional uncertainty in the development process above and beyond the timing and cost risks inherent in all developments, developers in the city have begun demanding more accountability. The BPDA has heard these calls for change and has allegedly met with officials from other major U.S. cities to educate themselves on how to conduct zoning more holistically.

Community/Political Delays – The developer cited timing as the biggest risk in the development process. While the PDA approval process is well documented and understood for larger projects as described, community opposition is often the biggest threat to timing, with groups demanding increased review or mitigations that extend the approval process. Local government is changing within Boston to become more progressive and currently, at its infancy, there is no clear view of how this change will impact the approval process. It is anticipated that this change might make it more difficult and take longer to get project entitlements without developers being forced to provide more significant community benefits/infrastructure in exchange for approvals.

Economic Timing – As of Q2 2019, according to this developer, the fundamentals of the Boston real estate market still feel strong given supply and demand dynamics as well as the diversity of the Boston economy and strength of biotech in the market. Even if the real estate market encounters economic headwinds, they anticipate that Boston would be slightly protected due to this diversity, leading to continued interest and investment into Boston development opportunities. However, regardless of promising economic fundamentals, time is always a risk. The developer explained that the market continues to pay a premium for development parcels that can complete the entitlement process quickly, ideally within six months, so that a project can be delivered ahead of anticipated competition. Because the typical entitlement timeline is roughly 18-24 months in Boston, the pipeline of supply is greatest in 2023, when considering an additional 18-24 months from construction commencement to delivery. This ability to be first to market, along with mitigating the risk of the economic cycle, creates a premium for near-term entitlement sites of roughly 40-50% over the standard 24-month process. If a project were to be sold with full entitlements in hand, a rarity in Boston, the value could be twice that of a comparable unentitled site.

An example of this was recently seen in Boston's Seaport District where two adjacent sites recently transacted. The proposed development on the first site was as-of-right, in accordance with the existing zoning. However, its waterfront location required that the plans comply and receive approval from the State of Massachusetts under Chapter 91, which governs the private use and public access to the State's waterways. The estimated timeline for receiving these approvals is likely the standard 18-24 months, but could be as long as 30 months given the State involvement. The sales price for this site was roughly \$275 PSF. The second site however, had existing approved permits for a commercial development that could be built immediately without any additional approvals. While the new owner is anticipated to change the plans and site use slightly, it was anticipated and underwritten by investors during the marketing process that moderate modifications would only require a mitigated 9-12-month approval process and should not require re-approval from the state under Chapter 91. The ability to start construction sooner and deliver the development to market ahead of competitive supply garnered a \$500 per built square foot sale price.

Underwriting Impact

The impact of this ambiguous zoning and entitlement process on underwriting development projects in Boston manifests itself in prolonged development timelines and pricing to compensate for the uncertainty.

Value – While entitled development projects in Boston are rare, this developer feels that a project that is unentitled in the City of Boston is priced at roughly 50-70% of the fully realized value of the entitled project if the parcel were to transact before ground breaking.

While developers may underwrite the same rent projections for projects of varying entitlement status, projects that are able to start construction and deliver sooner than the competition are able to underwrite a more confident forward-looking rent and occupancy projection, resulting in no discount to land value or required return premium. Projects that are expected to commence construction farther into the future are faced with more uncertainty regarding rent projections as well as the timeline to rent being generated. This leads to a higher required return premium for the increased risk that manifests itself in a discounted land value.

Returns – For this developer, Return on Cost isn't a driving factor of the ultimate residual land value paid for a development parcel as all parcels contain uncertainty regarding approvals. Instead, this group solves for roughly the same ROC on development projects but understands that one deal has more risk than the other. This developer accounts for risk premium in their IRR calculations however, which account for timing. For example, for the same entitled parcel described above, the developer would require a 300-400 bps premium on IRR for acquiring the same parcel had it been unentitled.

As mentioned, while these projects are intended for long-term hold, the underwriting done by the group benchmarks to the short-term for return analysis. The period of analysis begins at site acquisition and typically runs through project stabilization.

Boston Conclusion

With an opaque entitlement process subject to approvals from the BPDA for projects of scale, of which virtually all commercially pursued projects fall into this category, developers are faced with uncertainty regardless of whether their project substantially complies with existing zoning. In fact, the timeline for receiving approvals regardless of zoning compliance is often estimated to be the same 18-24 months due to this opacity. Related risk premiums are also fairly homogenous among projects of varying entitlement approvals due to the thick layer of uncertainty that surrounds the zoning code and permitting process.

In many cases, developers engage in a negotiation with the BPDA during the permitting process, who has been tasked with advancing the goals of thoughtful city building through preserving neighborhood character and increasing the city's tax base. These negotiations often result in approvals being exchanged for some form a community benefit. It is when these approvals are granted faster or for free (without an exchanged community benefit) that the development community feels the ambiguity in the process creates an unfair and politically driven environment that may favor some more than others. Developers have begun calling for more transparent and codified zoning in order to decrease some of the uncertainty in the development process.

Los Angeles

Entitlements and Zoning

The Department of City Planning is charged with the responsibility of preparing, maintaining, and implementing a General Plan for the development of the City of Los Angeles¹⁹. This General Plan includes specific guidance on the permitted uses, height, density and setback requirements, open space mandates, and additional specifications relating to housing and transportation. While the zoning code governing Los Angeles is clearly defined in itself, certain areas may also have Overlay Districts or Special Plans which impose additional regulations regarding what can be built on lands in these areas and to what intensity.

Because Los Angeles has such codified and well documented zoning regulations, what can and cannot be built on a site by-right is easily discerned. The path to receiving entitlements for a development which is in compliance with the governing zoning is therefore highly transparent. In addition to the category of approved uses on a site, Los Angeles zoning also contains subcategories of uses which may be permitted under a Conditional Use Permit (CUP). A Conditional Use Permit is required for certain land uses which may need special conditions to ensure compatibility with surrounding land uses and is subject to review for compliance with the General Plan for the City of Los Angeles. While the path to receiving entitlements for a use or density that is not permitted by-right by the existing zoning is ultimately subject to the risk of approvals, the path to receiving these approvals is generally understood to require an application and processing time of one year in order to be granted a special use permit such as a CUP or variance.

Scenario

The following case study is based on the experience of a Los Angeles-based development firm founded by principals with deep roots and decades of experience in the Los Angeles development community. While their headquarters and focus is on Los Angeles, they have experience developing and consulting throughout the West Coast which has given them perspective on how the process of acquiring and developing land in Los Angeles compares to other institutionalized markets.

The focus of this interview was a site for which the developer was pursuing a project that was in compliance with the existing zoning. While the developer understood what the firm was legally permitted to build, the approval process was not entirely risk-free. Throughout the process of obtaining the necessary approvals to build, including building plans and construction permits, the development is still subject to approvals regarding the design as well as traffic and environmental impacts and mitigations. Because these are discretionary approvals, the project has the potential to be scrutinized under CEQA which is the California Environmental Quality Act. CEQA is California's broadest environmental law and helps to guide the issuance of permits and approval of projects by determining their impact on the environment²⁰.

With regard to familiarity with the seller and the seller's qualifications for this particular parcel, the developer insists that they and other institutional groups personally complete all due diligence to understand the risks inherent with the site, mitigating any impact from seller familiarity on risk profile.

¹⁹ City of Los Angeles Planning and Zoning. 2019. <https://www.lacity.org/for-business/popular-services/planning-and-zoning>

²⁰ California Department of Fish and Wildlife. 2019. <https://www.wildlife.ca.gov/Conservation/CEQA/Purpose>

Greatest Risks and Risk Analysis

Environmental/Legal – As mentioned above, the single greatest threat to this project was the uncertainty surrounding the designation determined through the CEQA process. The developer explained how in a state like California, and especially in Los Angeles County, which has an active and environmentally conscious constituency, projects are highly scrutinized by not just CEQA officials but by the public as well for its impact on the environment and community quality of life.

While this developer, like many, seeks to find land acquisition opportunities which are currently zoned for their desired use, even when they find these opportunities, developers in Los Angeles still take entitlement risk as a broad concept due to environmental, political, legal risk and economic risks. One of the specific tactics to combat these risks that the developer sited was structuring an acquisition offer that provides optionality. This developer tends to option more land than buy it. Specifically, they stated that given the transparent nature of Los Angeles' zoning code, an option period of six months to one year is the ideal length of time to mitigate many of the aforementioned sources of entitlement risk. Of course this option does not come for free. Sellers understand that developers will be able to pay a higher overall value as the level of risk, and therefore required return, decreases. The typical option structure that this developer pursues includes paying a deposit to secure the option to buy the land that remains refundable for the initial 60-90 days of due diligence. Following this, depending on the findings of the initial due diligence period, they typically pay additional non-refundable deposits quarterly until they close on the land. This approach allows them flexibility both to walk away from the opportunity having lost only their option payments if the risk of entitlements appears too great during due diligence as well as the flexibility to not deploy all of the required equity so far in advance of ground breaking. This optionality allows the developer to spend time conducting community outreach to mitigate the threat of opposition to approvals as well as conduct physical site due diligence.

Where a site is not able to be optioned, either because of strong competition among bidders or because of the Seller's desire for an expedited closing, this developer will consider one other acquisition strategy to help mitigate entitlement risk. This strategy is what they referred to as a covered land play, meaning acquiring a piece of land for redevelopment that currently has an existing asset on site that is producing cash flows. This positive cash flow not only helps compensate the developer for the time spent on pursuing entitlement approvals but also provides for a more attractive exit strategy should the desired entitlement approvals appear unlikely or too time/capital intensive. The cash flow of the existing asset can be capitalized and resold, providing the developer with a wider pool of potential investors to resell the land to than had the asset been an undeveloped parcel.

Fluctuating Costs – Because zoning in Los Angeles is easily understood, even by groups with less localized experience, developers must find creative ways create efficiencies or further mitigate risk in order to outbid their competition. This developer felt that while their localized expertise may not help with navigating zoning, being active in the LA market helps them have timely and detailed estimates of costs that can be incorporated into their bids, mitigating the contingency line item that often inflates construction budgets and drives down residual land value. Their constant activity in the market allows them to maintain a robust data set of construction costs, revenue projections, taxes, permits, and fees that they can draw upon quickly during a bid process rather than creating anew. While this market knowledge helps them to not overbid, they described the shortage and therefore fluctuating cost of construction labor, as a prevalent risk for developers less active in this market. The recent natural disasters in and around Los Angeles County have been the cause of much of this labor shortage due to human resources being diverted to rebuilding impacted communities.

Economic: Lease-up – This developer discussed two primary sources of economic risk, and related opportunity, that they consider when acquiring a development parcel including lease-up risk and financing risk. With regard to lease-up risk, the developer stated that they carefully consider the present state of the economy to develop a prediction regarding future changes in the economic cycle. Given the lengthy construction period for large commercial projects, coupled with a sometimes equally long period for receiving entitlements, developers must feel comfortable that the economic and market conditions will be favorable at their anticipated project delivery date. This Los Angeles based developer however, presented an interesting perspective on economic timing to mitigate lease-up risk. The group takes a counter-intuitive approach to developing during a declining economic cycle and would rather take on more entitlement risk when the economy appears less certain, as signaled by weakening lease-up rates. This is because they anticipate entitlements for projects requiring use change-special permits, the riskiest type of entitlement risk, to take upwards of two years, which they feel is adequate time for a market correction. They acknowledge that this is a firm-specific preference that speaks to their appetite for risk but believe that their intimate knowledge of both the development process in Los Angeles as well as the overall health of the market allows them to time these riskiest developments so that they can align the delivery of their projects with anticipated market recovery and be the first to deliver space into a rising economy.

Economic: Capital Sources – An additional economic risk cited by this developer was financing risk. They stated that while finding capital in the current favorable economic environment isn't difficult, what can be challenging is finding capital sources that are willing to take on entitlement risks if they do not have local familiarity. This developer has attempted to mitigate this risk by focusing on sourcing Los Angeles-based capital partners. They firmly believe that groups with local capital sources have a greater chance of project success because there is a higher comfort level and therefore greater ability to take on entitlement risk given their knowledge of the local approval process.

Underwriting Impact

While this development firm has varied hold periods for their assets, they generally underwrite to a five to 10 year hold period in order to benchmark their returns for comparison between projects. Because the site which was the subject of our interview was in compliance with the existing zoning, the risk of receiving entitlements was partially mitigated when compared to a site where a Conditional Use Permit or Variance would be required. The developer explained that when evaluating sites, those requiring a change of use, more so than a change in density, present the greatest risk to receiving entitlement approvals. For this reason, these are generally understood to be the riskiest acquisitions and therefore require a return premium of 400-500 bps on their IRR over a comparable site that would not require the special use permit.

Premiums for return on cost was not quantified by this developer as IRR was their primary metric of risk comparison across acquisition candidates and development projects. They did state however, that going through the full entitlement process for a change of use would increase the value of the land by two to three times should the land be resold with the special use permit.

Los Angeles Conclusion

Zoning in Los Angeles is very defined. Even newcomers to the market can study and understand the Los Angeles zoning regulations fairly quickly given well documented code, outlining currently approved uses and the pathway and timing to petitioning for a change of use. This transparency not only eliminates ambiguity relating to what will or will not be approved and the timing to receiving these approvals, but also helps to mitigate backdoor deals between developers and permitting officials.

However, despite a fairly transparent and well-documented entitlement process and pathway for requesting a special use permit, developers are still faced with risks, one of which comes from sourcing the often large sums of capital required for commercial-sized development projects as entitlement risk is hard to translate to out-of-towners. California's reputation as a more environmentally conscious place also introduces an additional level of required approvals, with CEQA being a prominent risk faced by all developers given its broad jurisdiction. Because these main sources of risk to receiving entitlements in Los Angeles actually appear to come more from sources outside of the local approval authorities, developers in this market often seek to option land by paying refundable deposits that become non-refundable as the developer works through their due diligence, reaching out the community to garner favorability, and sourcing capital partners who can become comfortable with taking on this form of entitlement risk.

Austin

Entitlements and Zoning

Austin, Texas has a highly regulated development market with a clearly defined zoning code that informs developers of what uses can and cannot be constructed and to what intensity. The zoning code has been highly influenced by environmental and anti-growth interest groups that are very vocal within the city and are heard by local government.

Zoning between the central business district and the suburbs varies greatly. Within the CBD, the zoning code is well prescribed and easily interpreted both in terms of use and development intensity including height, FAR and parking requirements. In fact, within much of the CBD, there are no limits on height outside of the capital view corridor areas and developments are permitted to have 100% lot coverage. The pathway to use changes or increased density in this area is also clearly defined and well documented. For example, permitted FAR throughout the CBD is 8:1 however, if developers participate in an affordable housing program or pay a fee in lieu for any commercial project, allowable FAR is increased to 25:1.

Further out of the city center, outside of the central business district but still within the city limits, the zoning code becomes murkier. While use and intensity regulations are documented, the process for requesting a variance and what variances will actually be granted is less documented. For this reason, very few parcels transact in the suburbs without entitlements or without a due diligence period that allows the developer to advance through the rezoning process before closing. If a parcel does close without entitlements, a broker in this market reported that the price differential between the actual sale price and what the price would have been had entitlements been secured is substantial and perhaps as much as a 50% discount²¹.

Regardless of parcel location, the process for receiving entitlements includes three steps: 1.) Submit the development design to the Planning and Zoning Authority which then goes to city council for approval on the site plan (3-6 months); 2.) Apply for a site development permit which allows a developer to actually construct what was approved in the site plan (9-18 months); and lastly, 3.) Obtain a building permit to begin construction (30 days). From the developers' perspective, having site development permit in hand is the pivotal point, after which almost all of the entitlement risk has been mitigated. Unfortunately, though, sites are rarely sold with approved site development permits as a seller would be unlikely to recapture all of the value for the entitlement work they had completed up until this point. For this reason, almost all land transactions in Austin contain some level of entitlement risk, despite the unambiguous entitlement process and zoning code.

Scenario

The following case study is based on an interview with a leading land sales broker with over 25 years of experience in the Austin market. The subject development opportunity is a half-block parcel located in the CBD. The information from this interview was then supplemented by a conversation with a local developer who underwrote and submitted a bid for this site. As described of the CBD, this particular parcel had very permissive zoning which allowed roughly 900,000 SF of leasable space net of garage space to be developed by-right. The zoning for this property as well as location would have been suitable for office, multifamily rental, for-sale condominium or hotel development. For this reason, the site had broad appeal and attracted a significant amount of interest from the development community.

²¹ City of Austin, TX. 2019 <http://www.austintexas.gov/department/austin-city-code-land-development-code>

While the existing zoning and process for obtaining entitlements was abundantly clear, ambiguity regarding what could or could not be developed came from what existed currently on the site. The site had a warehouse that covered approximately 50% of the site which was greater than 50 years old. Because of this, the warehouse would need to be reviewed by the Historic Landmark Commission in order to determine if it was historically relevant, historically significant, or historic. This determination is the decision of one individual within the Commission who has approval oversight, creating substantial uncertainty due to sole discretion. If historically relevant, there would be flexibility regarding what could or could not be modified and the city may or may not allow a developer to demolish the entire building. However, if it was determined to be historically significant, the developer would have to preserve the exterior façade but could demolish the interior. Lastly, and the most threatening to development value, was if the structure was found to be historic, as the warehouse would then be required to remain as-is. Therefore, if the structure was historic in some respect, the total 35,000 SF rectangular parcel, a highly efficient and desirable footprint, would shrink to 20,000 SF square, creating a troublesome footprint that would be too small or inefficient for most desirable uses.

The marketing process for this site consisted of three rounds of bids, with developers being encouraged to increase their offering prices in addition to strengthening their closing conditions to make them more favorable to the seller.

Greatest Risks and Risk Analysis

Political – As described above, this site possessed a unique source of risk for developers given the ambiguity surrounding the historic designation of the warehouse currently on-site. While the issue was in regard to a historic designation, developers felt this was solely a political risk. Because the designation decision was made by one elected official, developers felt this decision could be influenced by the current political climate and by the district constituents. During the interview, it was described that developers sought to mitigate this risk through two avenues – land optioning and alternative development schemes. First, among the top three bids, due diligence periods were proposed at 60, 90 and 125 days with refundable deposits being pledged at the start of due diligence and then becoming non-refundable at the expiration of the period. Some bids also included the option to purchase additional due diligence extension periods depending on the status of the historic designation. Second, developers sought to mitigate this political risk through creating alternative development schemes that could be constructed on the reduced site footprint should the reviewing commission find that the structure was historic. This land optioning approach as well as drafting alternative schemes were a result of the historic designation decision laying within the purview of one individual within the approving commission.

Economic: Costs – Despite an unambiguous entitlement process and clearly defined zoning code, developers in Austin are still faced with some degree of entitlement risk as their desired scheme is still subject to site plan and site development approval. This process, which together can take up to 24 months, presents developers with cost risks from two sources – the risk of costs increasing over this time period as well as the risk that the development scheme will be changed in a manner that demands a higher cost of construction, either through design or structural needs. During the interview, the broker discussed how developers often incorporate construction costs from a general contractor who they will engage with if awarded the deal in order to utilize the most accurate construction costs in their underwriting and subsequent bid price.

Underwriting Impact

As described earlier, almost no sites transact with an approved site development permit, the lynchpin to receiving full entitlements, so most sites in Austin are underwritten as unentitled. However, based on the

broker interview and discussions of the top three bids submitted for the subject site, it became apparent that Austin's highly transparent zoning code and well documented entitlement process has helped mitigate much of the perceived risk and subsequent underwriting impact for unentitled sites.

As described above, investors in the Austin market cite two main sources of risk – cost, an economic risk should plans change or expenses escalate faster than anticipated, and political risk, when the site presents an additional challenge such as historical ambiguity requiring approval from an elected official. Because not all sites face this political risk, one developer described building in Austin as “as riskless as development can be” given that cost inflation risks exist in all markets and seasoned developers have the experience and strategies necessary to help mitigate this.

One mitigation strategy that developers use is option payments. Specific to the subject parcel that contained political approval risk, developers presented bids which contained deposits that were refundable for up to 125 days with the option to post additional deposits in order to extend their due diligence period should the historic designation not yet be determined. While this site was unique, the broker described that for a different site located in the CBD, developers would likely be using this due diligence period to explore the physical constraints of the site, including soil conditions and environmental issues. Experienced sellers in this market often have the necessary documentation on these issues to get potential buyers comfortable with physical site conditions in a short period of time. Therefore, as described through conversations with developers in this market, due diligence periods can be as short as 20 days for highly coveted sites, the shortest of all markets interviewed.

Returns – Based on developer conversations, groups cited that they do not consider their development IRR targets to contain a substantial premium for the risk of receiving entitlements as all development opportunities require some level of approvals and these approvals are well understood in this market. When asked to quantify what the premium would be should a fully entitled parcel of land transact, one group stated that the IRR discount (resulting in a value premium that could not be quantified), may be 150-200 bps for the decreased risk.

Austin Conclusion

While the zoning code within Austin and especially within the CBD is highly codified and the process for receiving entitlements is well-documented, because these entitlements are still subject to approvals from multiple groups, almost all land transactions in Austin have some level of entitlement risk due to the uncertainty of approvals. When a development site also possesses the potential for a historical designation, this uncertainty is further amplified because the decision of what will be permitted on-site hinges on discretionary approvals which are subject to the political leaning of the current approving commission.

Despite these uncertainties, sellers in this market often insist upon getting to post-entitlement pricing before entitlements are secured, insisting that the well-documented process should provide adequate risk mitigation. This coupled with almost no sites being sold with the coveted site development permit, which signifies near-certain entitlement approvals within 30 days, causes all sites to possess some form of entitlement risk. The underwriting of this entitlement risk is understood to be fairly homogenous among sites, especially within the CBD, where zoning is the most codified and permissive, and high competition for remaining development parcels causes erodes any risk premium. The most prevalent source of entitlement risk for Austin developers is therefore the risk that their costs will increase either due to a protracted approval timeline or due to a revised site plan which demands unforeseen design or structural elements. This risk exists in all development markets however, and experienced developers have the knowledge and strategies to manage this risk. For these reasons, the risk premium for unentitled land in

Austin, is modest if not non-existent as felt by the development community, barring the impact of a discretionary approval such as historical determination.

Chapter 6 – Conclusion

While academic theory states that the required return on a development opportunity should adequately compensate the investor for the level of risk they undertake, this relationship between risk and return does not appear as linear in practice. While developers do underwrite a premium for unentitled land, among different unentitled opportunities, this premium is fairly homogenous. The reason for this appears two-fold:

First, sites are not often sold fully entitled. Sellers know they will not be able to capture all of the value of their entitlement work in a land sale so they instead opt to develop the parcel themselves. For this reason, almost all development acquisition opportunities contain level of some entitlement risk.

Second, the competitive bid process often requires that groups close on a land acquisition before securing entitlements. In order to hedge against the entitlement risk, developers create a due diligence structure with varying levels of refundable and non-refundable deposits that allow them to gain certainty in the eventual approvals of their scheme before closing on the opportunity.

As seen through the three case studies, the single biggest determinant of the magnitude of entitlement risk came from how the local zoning code was structured. In Boston, the opacity and ambiguity felt by developers caused groups to underwrite a similar entitlement period and level of uncertainty among deals that required a use-change and those that did not. This resulted in a high return premium of up to 400bps and a land value discount of up to 50% when compared to a fully entitled site.

In Los Angeles, despite a well-documented zoning code, the political environment of the state and the presence of CEQA, which allows opposition on the basis of environmental or community compliance, introduced a source of entitlement risk outside of the traditional zoning code. For this reason, Los Angeles developers are highly likely to structure a land purchase with varying levels of deposits and underwrite a return premium of up to 500bps given uncertainty surrounding third-party opposition.

Lastly, in Austin, where zoning is highly codified, developers felt little risk lay in the entitlement process, where the structure of the local zoning code introduced no more uncertainty over and above what a land developer would encounter from the operational leverage and lease-up risk described in Chapter 3. Developers in Austin therefore felt that should a fully entitled parcel of land transact, the return discount (and therefore value premium) to unentitled land transacting in the market would be a modest 150-200bps. The exception to this was sites that required unique approvals such as historical designations.

Academic Analysis of Industry Approach

In order to understand whether the IRR premiums sought by developers across the three markets appropriately compensate for the entitlement risks identified, the following analysis used a hypothetical development scenario to quantify the riskiness of a prolonged entitlement period. The riskiness in this analysis was measured by the ratio of two development risk ratios. A development risk ratio is the ratio of the amount of investment risk in a development project to the amount investment risk in an unlevered investment in an otherwise identical stabilized property (i.e. $\text{development return} \div \text{stabilized asset return}$). This ratio illustrates how many times riskier a development opportunity is than the stabilized asset it produces. A ratio was completed for both an entitled opportunity and an unentitled opportunity. By taking the ratio of these two development risk ratios, the analysis illustrates how many times riskier an unentitled development is to an entitled development.

The entitled opportunity in this analysis assumed that a developer could begin construction six months (or 0.5 years) after site acquisition and that construction would take two years. The unentitled opportunity

assumed that the entitlement process added an additional two years to the six months, for a total of two and a half years before the two-year construction period could commence. All construction cost and rent assumptions were the same between the two scenarios.

Project Assumptions:	
Preliminary Phase (years)	0.5
Additional Entitlement Period (years)	2.0
Construction Time to Build (years)	2.0
Construction Cost	\$70,000,000
Value of Completed Project	\$100,000,000
Risk-Free Rate	2.00%
Construction Cost OCC ¹	3.00%
Construction Cost Risk Premium	1.00%
Stabilized OCC	6.00%

¹Opportunity Cost of Capital

Discounting both the value of the completed project and the construction costs back to Time 0, or the time when the irreversible decision is made to move forward with the development and the cost of the land is incurred, and finding the difference between the two values yields the market value of the land given the opportunity costs of capital, or market required returns.

$$\frac{\$100,000,000}{(1+6.00\%)^2} - \frac{\$70,000,000}{(1+3.00\%)^2} = \$89,000,000 - \$65,982,000 = \$23,018,000 \text{ market land value}$$

Numbers rounded to nearest 1,000.

Using the land value at Time 0 and the value of the land two years in the future (\$100,000,000 - \$70,000,000 = \$30,000,000), the canonical development opportunity cost of capital can be computed:

$$\left(\frac{\$30,000,000}{\$23,018,000} \right)^{1/2} - 1 = 14.16\%$$

This 14.16% is also the overall development phase IRR, of which 12.16% is the risk premium attributed to a development project over and above the assumed risk-free rate of 2.00%. In other words, market developers require a 14.16% return, of which 12.16% is intended to compensate for the risk of developing an entitled parcel of land. The development risk ratio for the entitled opportunity is therefore the development return premium of 12.16% divided by the stabilized asset return premium of 4.00% or 3.04.

Because this scenario assumed that there was an initial 0.5 years prior to construction, discounting the Time 0 land value of \$23,018,000 by the development opportunity cost, or 14.16%, for six months results in a market acquisition value of \$21,542,000. This acquisition value will be used to compare the entitled land opportunity with the development of an unentitled opportunity.

Based on feedback from the Boston and Los Angeles interviews, where the return premiums were most pronounced between entitled and unentitled opportunities, a 50% discount to entitled land value was applied to the unentitled opportunity. This results in a land value of \$10,771,000. Assuming the entitlement process takes an additional two years, the overall development phase IRR would be 25.56%, of which 23.56% is the premium over and above the risk-free rate that a developer would require to undertake the risks associated with this unentitled opportunity.

$$\left(\frac{\$30,000,000}{\$10,771,000} \right)^{1/(0.5+2.0+2.0)} - 1 = 25.56\%$$

The development risk ratio for the unentitled opportunity is therefore the development return premium of 23.56% divided by the stabilized asset return premium of 4.00% or 5.89.

The comparison of the two development risk ratios illustrates how much riskier the unentitled opportunity is compared to the entitled opportunity based on developer interview feedback. In this scenario, the unentitled opportunity is 1.95 times riskier ($5.89 \div 3.04 = 1.94$).

<i>Sensitivity of Required IRR to Extra Permitting Time & Land Price Discount:</i>					<i>Sensitivity of Ratio of Ratios to Extra Permitting Time & Land Price Discount:</i>				
	Extra Time (years):					Extra Time (years):			
	1.0	1.5	2.0	2.5		1.0	1.5	2.0	2.5
10%	13.28%	11.53%	10.19%	9.12%	10%	0.93	0.78	0.67	0.59
25%	19.34%	16.73%	14.74%	13.18%	25%	1.43	1.21	1.05	0.92
50%	34.00%	29.19%	25.56%	22.74%	50%	2.63	2.24	1.94	1.70
75%	63.34%	53.63%	46.47%	40.98%	75%	5.04	4.24	3.66	3.21

Takeaways

This canonical method of analysis where cash flows are assumed to occur at only two points in time allowed for the IRR of the same opportunity to be calculated under both an entitled and unentitled scenario, incorporating developer interview feedback into the land value discount and timing delay for the unentitled scenario. This academic approach revealed that the risks associated with an unentitled opportunity would add nearly 1,000bps to the investment return risk premium required by developers (14.16% vs. 25.56%), roughly double the IRR premium stated in interviews. One consideration for the discrepancy could be that this analysis ignores any additional out-of-pocket costs, such as legal and consultant fees, associated with the entitlement and permitting process. Nevertheless, the discrepancy between this academic analysis and the pragmatic approach described by developers illustrates that developers may be taking a more broad brush stroke approach to land value analysis or that developers are not being adequately compensated for the magnitude of unentitled land risk described.

In conclusion, despite using residual land value analysis methods, developers' quantifying of risk is less rigorous than what is used in academic practice. Risk premiums are not adjusted on an opportunity-by-opportunity basis. Instead, a homogenous premium is often applied across unentitled development opportunities based on what developers feel is commensurate with the risk created by the local zoning code, over and above inherent development risks such as escalating construction costs and lease-up risk. As seen through the interviews, cities with the clearest and most codified zoning codes allow developers to get comfortable with a mitigated return premium over that of fully entitled land. Cities looking to spark development may be wise to consider the impact that their civic approval process is having on local development investment and if a more transparent and codified approach could help build trust and comfort between the public and private sectors.

Bibliography

- “A Brief History of Planning & Zoning in Los Angeles.” Re:Code LA. January 6, 2014.
<https://recode.la/updates/news/brief-history-planning-zoning-los-angeles>.
- “APB Valuation Advisory 4: Identifying Comparable Properties.” The Appraisal Foundation. September 26, 2013.
https://www.appraisalfoundation.org/imis/docs/Valuation_Advisory_4_Identifying_Comparable_Properties_Updated_Final_09262013.pdf.
- “Build-to-Suit Leases.” KPMG. February 2017.
https://advisory.kpmg.us/content/dam/frv/en/pdfs/2017/FN_IID17_01.pdf.
- “Investor 101: What Is a Commercial Construction Loan Pro-Forma?” Horizon Community Bank. October 18, 2018. <https://www.horizoncommunitybank.com/investor-101-what-is-a-commercial-construction-loan-pro-forma/>.
- Badger, Emily. “The Bipartisan Cry of 'Not in My Backyard'.” The New York Times. August 21, 2018.
<https://www.nytimes.com/2018/08/21/upshot/home-ownership-nimby-bipartisan.html>.
- Boston Planning & Development Agency. 2019. <http://www.bostonplans.org/zoning/zoning-commission>.
- Bulloch, B., and J. Sullivan. “Information—The Key to the real estate development process”. *Cornell Real Estate Review* 8 (2010): 78–87.
- California Department of Fish and Wildlife. 2019.
<https://www.wildlife.ca.gov/Conservation/CEQA/Purpose>
- City of Austin, TX. 2019 <http://www.austintexas.gov/department/austin-city-code-land-development-code>
- City of Los Angeles Planning and Zoning. 2019. <https://www.lacity.org/for-business/popular-services/planning-and-zoning>
- Farmer, David. “Fundamental Skills for Real Estate Development Professionals II (Cont'd) - Project Entitlement.” Urban Land Institute. October 17, 2012.
<http://archive.uli.org/fallmeeting2012/wed/DenverEntitlements-DavidFarmer.pdf>.
- Farmer, David. “Fundamental Skills for Real Estate Development Professionals II (Cont'd) - Project Entitlement.”
- Formingle, Ian. “Top 10 Sources of Risk in Real Estate Investment Deals.” CrowdStreet. May 16, 2016.
<https://www.crowdstreet.com/top-10-real-estate-risk/>.
- Geltner, David M., Norman G. Miller, Jim Clayton, and Piet Eichholtz. *Commercial Real Estate: Analysis & Investments*, 707, 732-742, 766-769. Mason, OH: OnCourse Learning, 2014.
- Kelley, Scott Edward. 2007. “Entitlement Advantage: The Balance of Local Knowledge and Capital Access in Real Estate Entitlements.” Thesis. Massachusetts Institute of Technology.
- Macomber, John D. “You Can Manage Construction Risks.” *Harvard Business Review*, Issue 3 (March-April 1989). <https://hbr.org/1989/03/you-can-manage-construction-risks>.

Mastroeni, Tara. "Everything You Need to Know About Construction Loans." Forbes Magazine. August 20, 2018. <https://www.forbes.com/sites/taramastroeni/2018/08/20/everything-you-need-to-know-about-construction-loans/#7c8351e35733>.

Royal Institution of Chartered Surveyors. Valuation of Development Land. Coventry, UK: Royal Institution of Chartered Surveyors, 2008.

Welk, Dave. 2017. "Cap Rate vs. Return on Cost: Valuing Commercial Real Estate." Origin Investments. July 5, 2017. <https://origininvestments.com/2017/07/05/cap-rate-vs-return-on-cost-valuing-commercial-real-estate/>.